UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,684	06/27/2001	Stephen Peter de Jong	MS174305.1	3970

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EXAMINER
GODDARD, BRIAN D

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/892,684	DE JONG ET AL.
	Examiner	Art Unit	
	Brian Goddard	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 January 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-9,11-14,16,32-36 and 49* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,11-14,16,32-36 and 49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>27 June 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   In view of the Appeal Brief filed on 06 January 2006, PROSECUTION IS

HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the

following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed

by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and

appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth

in 37 CFR 41.20 have been increased since they were previously paid, then appellant

must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by

signing below:

SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

2.   Claims 1-5, 7-9, 11-14, 16, 32-36 and 49 are pending in this application. Claims

1, 11, 32 and 49 are independent claims. This action is non-final.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation, "the first data structure being an object." However, in claim 1 (from which claim 5 depends), the first data structure is specified as "a graph of objects." It is unclear if "a graph of objects" is equivalent to "an object", if an object is (or can be) a graph of objects, if a graph of objects is (or can be) an object, etc. The scope of claim 5 is blurred for this reason, and neither the specification nor the prosecution history lend any clarity to this issue. Thus, claim 5 is indefinite, as it appears to contradict claim 1, from which it depends.

In the interest of compact prosecution, the examiner takes the broadest reasonable interpretation of claims 1 and 5 as follows: The definition of "graph of objects" on page 5 of the Appeal Brief states, "A graph of objects is a structure that contains a graph root, which is the top object in a graph (See pg. 9, line 28), and subsequent objects that are referenced to other objects in the graph (i.e. forward references and backward references) (See pg. 9, ll. 13-14) as illustrated in Figures 1-5." Assuming that we have an object that does not reference any other objects, and which is not referenced by any other objects, then this single object is itself "a graph of

objects" by this definition. Thus, an object (a single object) is interpreted as "a graph of

objects" as claimed.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

4.   Claims 1-5, 7-9, 11-14, 16, 32-36 and 49 are rejected under 35 U.S.C. 102(e) as

being anticipated by U.S. Patent No. 6,292,933 to Bahrs et al. (hereafter 'Bahrs').

Referring to claim 1, Bahrs discloses a system that facilitates employment of a

pluggable formatter as claimed. See Figures 1-5 & 105-111 and the corresponding

portions of Bahrs' specification for this disclosure. Bahrs teaches, "a system [See Figs.

1-5 & 105-111] that facilitates employment of a pluggable formatter ['Destination' (See

Column 17, line 61 et seq.)], comprising:

a decision module [ApplicationMediator (512)] that retrieves a first data structure

['Original' object data] as a graph of objects [a single object that does not reference any

other objects, and which is not referenced by any other objects is "a graph of objects" as

per the interpretation specified above] for serialization thereof [See Column 58, line 51 –

Column 61, line 4];

a plurality of rule sets [ValidationRules (504) & 'Base Serializer Class'] that define

serialization information about data structure types;

a serialization selector ['Serializer' (See Figs. 105-111)] that determines a rule

set of the plurality of rule sets to provide to the decision module based on the data

structure type, the decision module populating a second data structure ['Changed'

object data] based on the serialization information and providing a pluggable formatter

['Destination' (See Column 17, line 61 et seq.)] with the second data structure, so that

the pluggable formatter can serialize the second data structure to an externalized

[remote] format defined by the pluggable formatter" as claimed.

Referring to claims 2-4, Bahrs teaches the system of claim 1, as above, wherein

the rule set is defined in the data structure, a third party file or as a default format [See

ValidationRules (504) & Figs. 105-111] as claimed.

Referring to claim 5, Bahrs teaches the system of claim 1, as above, wherein the

first data structure is an object [See Fig. 5] as claimed.

Referring to claim 7, Bahrs teaches the system of claim 6, as above, further

comprising an object ID generator [the class names are hashed (See Column 60, lines

16-27) – note that the hash code generated serves as an identifier for the object]

coupled to the decision module, the object ID generator assigns object IDs to each

object in the graph of objects as claimed.

Referring to claim 8, Bahrs teaches the system of claim 1, as above, the data

structure containing information [data element code(s)] within the data structure that the

serialization selector utilizes in determining a rule set [See Column 59, line 10 et seq.]

as claimed.

Referring to claim 9, Bahrs teaches the system of claim 1, as above, wherein the

decision module is integrated into the pluggable formatter [See Column 17, line 61 et

seq.] as claimed.

Referring to claim 11, Bahrs teaches a system that facilitates employment of a

pluggable formatter [See Figs. 1-5 & 105-111 and Discussions of claims 1-9 above],

comprising:

a formatter services component [Transporter (524)] that receives a decoded

serialized stream from a pluggable formatter and creates a data structure [Base

Deserializer Class] as a graph of objects [See above] for deserialization of the decoded

serialized stream; and

an object manager [ApplicationMediator (512)] that tracks data in the decoded

serialized stream [RequestEvent (522)] and determines forward references to additional

data to provide fixups to the data structure upon receipt of the additional data [See Figs.

5 & 106] as claimed.

Claim 12 is rejected on the same basis as claim 1, in light of the basis for claim

11. See the discussions regarding claims 1 and 11 above for the details of this

disclosure.

Claims 13-14 are rejected on the same basis as claims 2-3 respectively, in light

of the basis for claim 12. See the discussions regarding claims 1-3 and 11-12 above for

the details of this disclosure.

Claim 16 is rejected on the same basis as claim 6, in light of the basis for claim

11. See the discussions regarding claims 1, 6 and 11 above for the details of this

disclosure.

Claims 32-36 are rejected on substantially the same basis as claims 1-9, 11-14 and 16. See the discussions regarding claims 1-9, 11-14 and 16 above, as well as the portions of Bahrs' specification cited therein, for the details of this disclosure.

Claim 49 is rejected on substantially the same basis as claims 1 and 11. See the discussions regarding claims 1 and 11 above, as well as the portions of Bahrs' specification cited therein, for the details of this disclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6.   Claims 1-5, 7-9, 11-14, 16, 32-36 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahrs in view of *either* U.S. Patent No. 6,298,353 to Apte

(hereafter 'Apte') or U.S. Patent No. 6,609,130 to Saulpaugh et al. (hereafter 'Saulpaugh').

Referring to claim 1, Bahrs discloses a system that facilitates employment of a pluggable formatter as claimed. See Figures 1-5 & 105-111 and the corresponding portions of Bahrs' specification for this disclosure. Bahrs teaches a system [See Figs. 1-5 & 105-111] that facilitates employment of a pluggable formatter ['Destination' (See Column 17, line 61 et seq.)], comprising:

a decision module [ApplicationMediator (512)] that retrieves a first data structure ['Original' object data] for serialization thereof [See Column 58, line 51 – Column 61, line 4];

a plurality of rule sets [ValidationRules (504) & 'Base Serializer Class'] that define serialization information about data structure types;

a serialization selector ['Serializer' (See Figs. 105-111] that determines a rule set of the plurality of rule sets to provide to the decision module based on the data structure type, the decision module populating a second data structure ['Changed' object data] based on the serialization information and providing a pluggable formatter ['Destination' (See Column 17, line 61 et seq.)] with the second data structure, so that the pluggable formatter can serialize the second data structure to an externalized [remote] format defined by the pluggable formatter.

Assuming arguendo that the claimed "graph of objects" requires more than a single object, Bahrs does not explicitly state that multiple objects are serialized as a graph of objects. However, both Apte and Saulpaugh disclose

serialization/deserialization systems and methods similar to that of Bahrs, wherein a graph of objects is serialized/deserialized. Specifically, Apte discloses that the default Java serialization serializes a graph of objects, and in fact must serialize a graph of objects in order to maintain relationships between the objects that reference each other within the graph. See Columns 1-4, and particularly Column 3, lines 3-24 of Apte's specification for this disclosure. Thus, if one object references another, then both objects MUST be serialized as a graph of objects to maintain the relationship between them. Saulpaugh also teaches serialization of a graph of objects, disclosing the basics of the default Java serialization, as well as an improved serialization technique. See Column 13, line 20 – Column 14, line 17 of Saulpaugh's specification for this disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Apte's or Saulpaugh's serialization of a "graph of objects" to the serialization existent in Bahrs, to obtain the invention as claimed. One would have been motivated to do so in order to maintain relationships between objects that reference each other, as disclosed by Apte.

Referring to claims 2-4, Bahrs in view of Apte or Saulpaugh as applied to claim 1 above (hereafter 'Bahrs/Apte-Saulpaugh') teaches the system of claim 1, as above, wherein the rule set is defined in the data structure, a third party file or as a default format [See ValidationRules (504) & Figs. 105-111][1] as claimed.

Referring to claim 5, Bahrs/Apte-Saulpaugh teaches the system of claim 1, as above, wherein the first data structure is an object [See Fig. 5] as claimed.

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[1] All citations henceforth refer to Bahrs, unless otherwise noted.

Referring to claim 7, Bahrs/Apte-Saulpaugh teaches the system of claim 6, as above, further comprising an object ID generator [Bahrs: the class names are hashed (See Column 60, lines 16-27) – note that the hash code generated serves as an identifier for the object; Apte: SUID (See Column 7, lines 51-67); Saulpaugh: same hash as Bahrs (See Column 13, line 20 – Column 14, line 17)] coupled to the decision module, the object ID generator assigns object IDs to each object in the graph of objects as claimed.

Referring to claim 8, Bahrs/Apte-Saulpaugh teaches the system of claim 1, as above, the data structure containing information [data element code(s)] within the data structure that the serialization selector utilizes in determining a rule set [See Column 59, line 10 et seq.] as claimed.

Referring to claim 9, Bahrs/Apte-Saulpaugh teaches the system of claim 1, as above, wherein the decision module is integrated into the pluggable formatter [See Column 17, line 61 et seq.] as claimed.

Referring to claim 11, Bahrs/Apte-Saulpaugh teaches a system that facilitates employment of a pluggable formatter [See Figs. 1-5 & 105-111 and Discussions of claims 1-9 above], comprising:

a formatter services component [Transporter (524)] that receives a decoded serialized stream from a pluggable formatter and creates a data structure [Base Deserializer Class] as a graph of objects [See above] for deserialization of the decoded serialized stream; and

an object manager [ApplicationMediator (512)] that tracks data in the decoded

serialized stream [RequestEvent (522)] and determines forward references to additional

data to provide fixups to the data structure upon receipt of the additional data [Bahrs:

See Figs. 5 & 106; Apte: See Columns 1-4, and particularly Column 3, lines 3-24;

Saulpaugh: See Column 13, line 20 – Column 14, line 17] as claimed.

Claim 12 is rejected on the same basis as claim 1, in light of the basis for claim

11. See the discussions regarding claims 1 and 11 above for the details of this

disclosure.

Claims 13-14 are rejected on the same basis as claims 2-3 respectively, in light

of the basis for claim 12. See the discussions regarding claims 1-3 and 11-12 above for

the details of this disclosure.

Claim 16 is rejected on the same basis as claim 6, in light of the basis for claim

11. See the discussions regarding claims 1, 6 and 11 above for the details of this

disclosure.

Claims 32-36 are rejected on substantially the same basis as claims 1-9, 11-14

and 16. See the discussions regarding claims 1-9, 11-14 and 16 above, as well as the

portions of Bahrs, Apte & Saulpaugh cited therein, for the details of this disclosure.

Claim 49 is rejected on substantially the same basis as claims 1 and 11. See the

discussions regarding claims 1 and 11 above, as well as the portions of Bahrs, Apte &

Saulpaugh cited therein, for the details of this disclosure.

Response to Arguments

7.   Applicants' arguments, see the Appeal Brief filed 06 January 2006, with respect

to the rejection(s) of claim(s) 1-5, 7-9, 11-14, 16, 32-36 and 49 under Section 102(e)

interpreting Bahrs' PlacementListener as a graph of objects, have been fully considered

and are persuasive. Therefore, the rejection has been withdrawn. However, upon

further consideration, new grounds of rejection are made in view of Bahrs taken alone

(Section 102(e)) using the broadest reasonable interpretation of "graph of objects", as

above, and Bahrs in view of *either* Apte *or* Saulpaugh (Section 103(a)) assuming

arguendo that a "graph of objects" requires more than one object.

        The definition of "graph of objects" on page 5 of the Appeal Brief states, "A graph

of objects is a structure that contains a graph root, which is the top object in a graph

(See pg. 9, line 28), and subsequent objects that are referenced to other objects in the

graph (i.e. forward references and backward references) (See pg. 9, ll. 13-14) as

illustrated in Figures 1-5." Assuming that we have an object that does not reference any

other objects, and which is not referenced by any other objects, then this single object is

itself "a graph of objects" by this definition. Thus, an object (a single object) is

interpreted as "a graph of objects" as claimed.

        Applicants' remarks on pages 5-6 arguing that Bahrs fails to disclose an

externalized format or a decoded serialized stream are not found persuasive.

Applicants' characterization of Bahrs serialization as just a hash of the class name to

generate a code completely ignores the remainder of Bahrs disclosed serialization

process. Bahrs' hash of the class name is PART of the serialization process, but

certainly not the whole of it. Bahrs does in fact produce an externalized format, and a decoded serialized stream (See Column 58, line 51 – Column 61, line 4), as do Apte (See above) and Saulpaugh (See above) as well.

The remainder of applicants' arguments are moot in view of the new grounds of rejection, as above.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 571-272-4020. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bdg
11 January 2006

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